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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------------|------------------------|
| 10/531,704 | 10/28/2005 | Takayasu Yasuda | Q87375 | 1528 |
| 23373 7590 06/14/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037 | | | | |
| | | | EXAMINER SONG, SARAH U | |
| | | | ART UNIT 2874 | PAPER NUMBER |
| | | | MAIL DATE 06/14/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/531,704 | YASUDA ET AL. | |
| | Examiner | Art Unit | |
| | Sarah Song | 2874 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>0406</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The prior art documents submitted by the applicant in the Information Disclosure Statement filed on April 18, 2005 have all been considered and made of record (note the attached copy of form PTO-1449).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-10 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Koike (EP 0 566 744).**
5. Regarding claims 1-10 and 19, Koike discloses a polymer composition comprising a polymerizable monomer composition, a polymerization initiator, and a compound (biphenyl or diphenyl sulfide, page 6, line 57 and 58) having a different refractive index from that of the polymerizable monomer composition, whose structure has a benzene ring substituted by a substituent having a Hammett value of not greater than 0.04 or by plural substituents having an average value of Hammett values thereof of not greater than 0.04. As such it appears that the compound has an absorption peak attributed to a fourth overtone of C-H bond stretching

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vibration in a benzene ring at not shorter than 875 nm. The monomer composition comprises an ester of a (meth)acrylic acid and at least one selected from the group consisting of compounds including a C-F bond (Table 1) in a major proportion (page 7, line 42). The compound may include a C-D bond (page 10, lines 23-51). Koike further discloses an optical member, such as a fiber, light guide or a lens, produced by polymerization of said composition so as to form a region having a graded refractive index along the direction from the center to the outside.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koike.**

8. Regarding claim 20, Koike discloses the method of polymerizing comprising the step of heating according to conventional methods, but does not expressly disclose the polymerization temperature. However, it would have been within the level of ordinary skill in the art to determine an optimal polymerization temperature. Therefore, the claimed temperature of 50 degrees Celsius or above would have been obvious since it has been held that where the general conditions of a claim are disclosed by the prior art, discovering optimum or workable ranges involves only routine skill in the art.

9. **Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike in view of Kawai et al. (U.S. Patent 5,663,264).**

10. Regarding claims 11-18, Koike discloses the invention as discussed above with regard to claims 1-6 and 8-10, but does not expressly disclose the monomer composition according to Formula 2.

11. Kawai et al. discloses that monomer compositions comprising acrylic esters comprising a C5-C22 alicyclic hydrocarbon group. Kawai et al. discloses that such compositions improve hue, strength, transparency and heat resistance (column 11, lines 31-56).

12. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the monomer composition of Koike modified according to Formula 2 for the purpose of improving improve hue, strength, transparency and heat resistance of the optical device as taught by Kawai et al.

13. Furthermore, Koike discloses the desirability of a minimal difference in the solubility parameters of the polymerizable monomer and the compound to avoid phase separation (page 7, lines 51-56). Additionally, it appears that the diphenyl sulfide of Koike et al. meets the solubility parameter as claimed as the structure is similar to the structures of the compounds, 2-(1) for example, disclosed by Applicant on page 34 of the specification.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,541,247 is equivalent to the Koike reference relied upon above.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

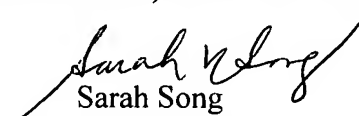
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the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Song whose telephone number is 571-272-2359. The examiner can normally be reached on M-Th 7:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Sarah Song
Primary Examiner
Art Unit 2874